

# Notice of Allowability

Application No.

10/552,248

Examiner

Cindy D. Khuu

Applicant(s)

PETRICH ET AL.

Art Unit

2863

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/3/07.
2. ☒ The allowed claim(s) is/are 1-19.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## DETAILED ACTION

### *Examiner's Amendment*

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given by Ms. Jori Fuller during a telephone interview on 12/19/2007.

The application has been amended as follows:

Amend claim 19 as followed:

-- A computer-readable medium having stored thereon instructions executable by a processor to perform functions to diagnose individual stages of a progression of a disease, the functions including:  
    creating a data record which is calculated by interpolation between at least one part of first data and at least one part of second data, wherein  
        the first data and the second data are allocated to a first class and a second class, respectively,  
        the first data comprises a first parameter which has been generated on the basis of electromagnetic spectra of known samples belonging to the first class of using a multivariate analytical method so that a reliable allocation of samples to the first class is possible on the basis of the first parameter, and  
        the second data includes a second parameter generated on the basis of electromagnetic spectra of known samples belonging to the second class using the multivariate analytical method so that a reliable allocation of samples to the second class is possible on the basis of the second parameter,  
    generating a sample parameter of an unknown sample using a multivariate analytical method based on an electromagnetic spectrum; and  
    determining a proportion value for the sample parameter regarding at least a part of the data record, wherein the proportion value reflects a relation of the sample parameter to a class in such a way that it can be determined to what extent the unknown sample belongs to a class; and  
    allocating the sample parameter to the data record. --

***Pertinent Art Cited***

The following US Patent Applications reveal the current state of the art:

Lisboa et al. (Pattern Recognition Methods for MRS Analysis and Classification, 1997 IEE Savoy Place) teach of a data medium having a data record (2 data sets) for analysis of a sample (page 1; section 2), comprising

a data record (Figures 7-10) which is calculated by interpolation between at least one part of first data and at least one part of second data (page 7), wherein

the first data (figure 7) and the second data (figure 9) are allocated to a first class (PML patients) and a second class (HIV controls patients), respectively (page 7),

the first data comprises a first parameter (ROC characteristics) which has been generated on the basis of electromagnetic spectra of known samples belonging to the first class by means of a multivariate analytical method (PCA or PLS) so that a reliable allocation of samples to the first class is possible on the basis of the first parameter (pages 3-8, sections 4-5), and

the second data includes a second parameter (ROC characteristics) generated on the basis of electromagnetic spectra of known samples belonging to the second class by means of the multivariate analytical method (PCA or PLS) so that a reliable allocation of samples to the second class is possible on the basis of the second parameter (pages 3-8, sections 4-5), wherein

an allocation of a sample parameter (ROC characteristics/variables) generated by means of the multivariate analytical method (PLS or PCA; figures 7-10) on the basis of an electromagnetic spectrum (MRS; Table 3) of an unknown sample to the data record is possible (page 3; sections 3.1).

However, Lisboa does not teach at least determining a proportion value for the sample parameter regarding at least a part of the data record, wherein the proportion value reflects a relation of the sample parameter to a class in such a way that it can be determined to what extent the unknown sample belongs to a class.

***Allowable Subject Matter***

Claims 1-19 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claims 1, 9 and 19 is the inclusion of the limitation "determining a proportion value for the sample parameter regarding at least a part of the data record, wherein the proportion value reflects a relation of the sample parameter to a class in such a way that it can be determined to what extent the unknown sample belongs to a class". The prior art of record, taken alone or in combination, fails to disclose or render obvious.

Claims 2-8 and 10-17 are allowed due to their dependency on claims 1 and 9.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Fax/Telephone Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy D. Khuu whose telephone number is (571) 272-8585. The examiner can normally be reached on M-F, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Application/Control Number:  
10/552,248  
Art Unit: 2863

Page 5

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CME 12/28/07

  
John Barlow  
Supervisory Patent Examiner  
Technology Center 2800